



ordered hydrocarbon monolayer, said ordered hydrocarbon monolayer being attached to said surface through one or more second silane residues on each of said second alkyl chains proximal ends.

55. The biochip of claim 54 wherein said ordered hydrocarbon monolayer is made from two or more different molecular species.

91
56. The biochip of claim 46 wherein said functional group is one of hydroxyl, carboxyl, amino, aldehyde, carbonyl, methyl, methylene, alkene, alkyne, carbonate, aryl iodide, or vinyl groups.

57. The biochip of claim 46 wherein said functional group is a photoactivatable functional group. --

REMARKS

Claims 36 - 40 and 42 - 44 have been cancelled. New Claims 46 - 57 have been added by way of amendment. Support for Claims 46 - 57 may be found throughout the specification, therefore, no new matter under 35 U.S.C. § 132 has been added. Examples of such support include, but are not limited to the following citations. Claim 46 "A biochip for displaying attached polynucleotides comprising:" at page 83, line 7, page 4, line 21, and page 9, line 16; "a substrate having an oxide or nitride surface" at page 15, line 18 through page 16, line 5; "an ordered hydrocarbon monolayer" at page 17, line 17 through page 18, line 3, where "hydrocarbon" is at page 38, lines 3-10; "formed from first alkyl chains, said first alkyl chains having proximal and distal ends" at page 38, lines 3-6; "said first alkyl chains interacting with each other to form said ordered hydrocarbon monolayer" at page 17, lines 17-18; "said ordered hydrocarbon monolayer being attached to said surface through one or more silane residues on each of said first alkyl chains proximal ends" at page 39, lines 5-15; "said first alkyl chain's distal ends each having a functional group" at page 41, lines 3-4; "adapted for covalently attaching a polynucleotide to said first alkyl chain" at page 9, lines 15-16.

Claim 47 finds support for "wherein said first alkyl chains are from 8 to 22 carbons in length" at, for example, page 38, line 9.

Claim 48 finds support for "wherein said oxide or nitride surface is selected from the group consisting of silicon oxide, titania, tantalum oxide, silicon nitride, indium tin oxide, magnesium oxide, alumina, quartz, glass, silica, and hydroxylated surfaces" at, for example, page 39, lines 5-15.

Claim 49 finds support for "wherein said first alkyl chains are the same length" at, for example, page 38, lines 8-9.

Claim 50 finds support for "one or more selected polynucleotides attached to said first alkyl chain's distal ends through a functional group residue of said functional group" at, for example, page 41, lines 3-4 and page 9, lines 12-16.

Claim 51 finds support for "said surface defining a plurality of immobilization regions for immobilizing said selected polynucleotides within said immobilization regions" at, for example, page 20, lines 13-15.

Claim 52 finds support for "wherein different selected polynucleotides are immobilized within two or more different immobilization regions" at, for example, page 50, lines 6-7.

Claim 53 finds support for "one or more border regions separating two or more of said immobilization regions to form two or more spaced apart immobilization regions" at, for example, page 22, lines 1-6.

Claim 54 finds support for "said ordered hydrocarbon monolayer is formed from a ratio of said first mentioned alkyl chains having a first mentioned functional group for attaching polynucleotides, and second alkyl chains, said second alkyl chains having proximal and distal ends, said alkyl chains interacting with each other to form said ordered hydrocarbon monolayer, said ordered hydrocarbon monolayer being attached to said surface through one or more second silane residues on each of said second alkyl chains proximal ends" at, for example, page 44, lines 1-5.

Claim 55 finds support for "said ordered hydrocarbon monolayer is made from two or more different molecular species" at, for example, page 38, lines 3-4.

Claim 56 finds support for "said functional group is one of hydroxyl, carboxyl, amino, aldehyde, carbonyl, methyl, methylene, alkene, alkyne, carbonate, aryl iodide, or vinyl groups" at, for example, page 41, lines 16-21.

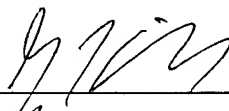
Claim 57 finds support for "said functional group is a photoactivatable functional group" at, for example, page 41, line 21 through page 42, line 2.

CONCLUSIONS

Applicants believe that the newly added claims place the present application in a condition for examination. Accordingly, examination is respectfully requested.

If the Examiner feels that a telephone conference would be helpful, Applicants' representative may be reached at the telephone number associated with the customer number listed below.

Very truly yours,



Gregory L. Heinkel

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